the Marine Biological Association of India 16(1): 311-313.

1975. Boring sponges of Zuari and Mandovi esturies. Bulletin of the Department of Marine Science, University of Cochin 7(1): 117-126.

1976a. *Endectyon lamellosa* n. sp. (Demospongiae: Poecilosclerida, Raspailiidae) from the Indian seas and a revised key to the Indian species of *Endectyon* Topsent. Journal of the Marine Biological Association of India 18(1) : 169-172.

1976b. History of spongiology of the Indian Ocean. Journal of the Marine Biological Association of India 18(3): 610-625.

1977. Studies on Indian sponges VIII. Four new records of siliceous sponges *Echinochalina glabra* (Ridley & Dendy), *Higginsia mixta* (Hentschel), *Geodia lindgreni* (Lendenfeld) and *Pachamphilla dendyi* Hentschel from the Indian Ocean. Journal of the Marine Biological Association of India 19(1): 115.

1979a. Boring sponges destructive to economically important molluscan beds and coral reefs in the Indian seas. Indian Journal of Fisheries 26(1&2): 163-200.

1979b. Demospongiae of Minicoy Island (Indian Ocean) Part-I, orders Keratosida and Haplosclerida. Journal of the Marine Biological Association of India 21(1&2): 10-16.

1980a. Demospongiae of Minicoy Island (Indian Ocean) Part-II order Poecilosclerida. Journal of the Marine Biological Association of India 22(1&2): 1-7.

1980b. Demospongiae of Minicoy Island (Indian Ocean) Part-III. Order Halichondrida and Hadromerida, Epipolasida and Choristida. Journal of the Marine Biological Association of India 22(1&2): 8-20.

1983. Distribution and affinities of the sponge fauna of the Indian region. Journal of the Marine Biological Association of India 25(1&2): 7-16.

1984. Sponges collected aboard R.V. 'Skipjack' from the south east coast of India. Journal of the Marine Biological Association of India 26(1&2): 95-102.

1985. Demospongiae of the Gulf of Mannar and Palk Bay. Pp 205-365. In James, P.S.B.R. (ed.) Recent Advance in Marine Biology (Today Tomorrow's Printers and Publishers: New Delhi).

THOMAS, P.A., RAMADOSS, K. & VINCENT, S.G. 1993. Invasion of *Cliona margaritifera* Dendy and *C. lobata* Hancock on the molluscan beds along the Indian coast. Journal of the Marine Biological Association of India 35(1&2): 145-156.

THOMAS, P.A. & THANAPATI, V. 1980. An ancient window pane oyster bed in Goa with comparative notes on the Oyster in an extent bed. Indian Journal of Fisheries 27(1&2): 54-60.

THE IMPACT OF TRAWLING ON SOME TROPICAL SPONGES AND OTHER SESSILE FAUNA. *Memoirs of the Queensland Museum 44: 455. 1999*:- Following a replicated repeated-trawl depletion experiment, which removed 70-90% of the initial biomass of sessile fauna, non-destructive methods have been used to measure recovery of the structurally dominant species. To date, three post-impact surveys have been completed (1 month, 1 year, 2 years) on 6 trawled swathes and 6 controls. These involved quantitative video observations from a tow-sled and from an ROV with positioning precision of 2m. More than 80 taxa of sessile fauna were recorded and about 15 taxa, including sponges, gorgonians, and alcyonarians and hard corals, were abundant enough for analysis. The attributes measured for each organism were species, position, size (height, width, and area), and condition (proportion intact, dead, or encrusted). These data enabled analyses of density, size, condition and species composition, with high precision. We have demonstrated statistically that the methods are very powerful for detecting recovery on the trawled tracks, but the time series is, as yet, too short to identify any recovery. Nevertheless, in treatment vs control or before vs after comparisons, all taxa analysed for which sample size was adequate, showed significant impact due to trawling, for at least one or more of the measured attributes. For all benthos taxa combined, the rate of decrease in benthos density with trawl intensity corresponded to ~10% per trawl, so that in areas trawled 13 times, the benthos density was only ~25% of that in un-trawled areas. This conclusion was very similar to the overall estimate of removal obtained from depletion-regression analysis of the catch obtained during the repeat-trawl experiment. The results also indicated the nature in which trawl impact was manifested for different organisms with different structure and morphology. The sea whips were most resilient to removal, though they could be damaged. Sponges and soft corals were relatively easily removed and hard corals were easily broken. The gorgonians were intermediate and variable in resilience. The interaction between these differences and trawl impact caused a marked change in, and degradation of, the community composition of the seabed habitat. ❐

Porifera, sessile fauna, impact, condition, recovery, trawling, ROV, video, resilience.

C.R. Pitcher (email: roland.pitcher@marine.csiro.au), C.Y. Burridge, T.J. Wassenberg & G.P. Smith, CSIRO Division of Marine Research, PO Box 120, Cleveland, Qld. 4163, Australia; 1 June 1998.